

Legal protection for the Essex Emerald Moth, *Thetidia smaragdaria* (Fabricius)

By ALAN STUBBS * and JOHN RUDGE *

On March 26th 1979, the Secretary of State for the Environment issued an order which adds the Essex Emerald moth to Schedule 1 of The Conservation of Wild Creatures and Wild Plants Act, 1975. This action was taken on the advice of the Nature Conservancy Council, and after formal consultation by the Department of the Environment with two national entomological societies and Essex Naturalists' Trust.

During September and October 1978 the NCC gave a contract for a full time survey of all known historic sites for the moth in Essex. An inspection has also been made of additional sites where the foodplant, sea wormwood (*Artemisia maritima*) is well established and considerable adjacent sections of the coastline checked. This survey has revealed only a single scarcely viable site containing the species, centred on a total of about 5 square metres of foodplant with an estimated autumn population of 100 larvae. Search of an adjacent area of foodplant at this site revealed only two further larvae. An exact count has not been attempted for fear of causing undue disturbance but there is not the slightest doubt that in terms of adult population levels this moth is in a very precarious position.

Consideration has also been given to the possible occurrence of the moth beyond the Essex county boundary. Results of field investigation have been negative and it is therefore necessary to act upon the known status of the moth in Essex.

The Essex Emerald has seemingly always been highly localised and is an exceptionally vulnerable species. Sea wormwood is widely distributed on the Essex coast, but generally as a diffuse scattering of plants, rarely occurring in significant stands. The plant has a narrow zone of occurrence relative to the tide line and the moth may be even more fussy in its requirements since the species is absent even from localities with large quantities of available foodplant.

One of the causes for the decline of the moth has been man's destruction of the habitat, in particular the sea walls constructed after the 1953 floods are believed to have obliterated much of the sea wormwood in Essex. With smaller sites, the trampling and grazing by domestic stock has mutilated and possibly destroyed sea wormwood in some of the localities where this farming activity is prevalent. Some sites have been subject to development for various land uses.

Restriction of the habitat has in consequence made the moth vulnerable to the collector. The larvae are easy to find once the technique is learnt and on sites with only a little foodplant it is possible for the diligent entomologist to find a high percentage of the population. A small site cannot possibly

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withstand collecting year after year by an unrestricted number of entomologists. It is known that numbers of larvae have been removed from certain sites and it is suspiciously more than coincidence that the insect is now absent from all except one site where it is on the brink of extinction.

The 1975 Act prohibits the taking of the Essex Emerald at any stage in its life cycle and carries the maximum fine of £200 for possession of each egg, larva, pupa or imago. The selling, barter or exchange of specimens carries similar penalties. There is provision for NCC to issue licenses for approved purposes. These terms are identical with those applying to the Large Blue.

It is not without the deepest consideration that the Nature Conservancy Council has advised the use of legislation to protect this species. The move will be seen by some as an entirely negative action which has little meaning to anyone to whom the risk of a fine is no deterrent. Further, this may be seen as a step down the slippery slope leading to the total prohibition of insect collecting. It is hoped, however, that any fair minded person who considers the facts set out above would reach exactly the same conclusion as NCC — that is would be irresponsible not to take every action possible to reduce the chances that the narrow motives of a few people might deprive future generations of entomologists of the opportunity of seeing this fine insect.

The salvation of the insect requires positive action. The survey itself was a positive move. A major publicity drive has been undertaken to recruit Essex naturalists to survey all poorly known sections of coast to see if further good stands of sea wormwood are available. Measures are being undertaken which should help build up the population level of the moth to a point where stock may be transferred to other sites. The aim must be to get the species out of its critically endangered status and into a safe category.

Let it be admitted at this stage that there are substantial difficulties to be faced, but if failure comes it will be through not having realised the critical status of the moth soon enough and perhaps not having brought the species onto the Act earlier. With a larger population or with several extant localities, one could have considerably increased the chances of success with a conservation management programme.

The present policy of the Nature Conservancy Council is to avoid as far as possible the addition of insects to protective legislation. It is accepted that collecting has to remain a necessary activity in many branches of entomology and, even where in strict terms it is not necessary to take specimens, the motivation towards fieldwork often entails some collecting of reference material. The conservation movement needs recording to be encouraged rather than stifled.

However, entomologists themselves need conservation if they and future generations are to be able to gain the pleasure of seeing our rarer insects. Times are changing fast because

the amount of 'wild' land is decreasing fast, and this puts a great onus of responsibility on all entomologists to show restraint in collecting where their actions may endanger the survival of localised populations of species.

The choice is ultimately yours. Please learn from the Essex Emerald story, where the quiet assumptions that the moth would be wherever there is foodplant and just another collecting visit would do no harm have proven unfounded. The ultimate question is not so much about rarity as vulnerability to efficient collecting. No one wants the cumbersome force of law to be used and indeed it need not be if responsible attitudes to collecting prevail. It is accepted that the major need is for habitat conservation but in a few cases there will be additional considerations. The last thing that the entomological community needs is to be accused, let alone proven, to have caused the extinction of an insect by collecting.

In advising that the Essex Emerald should be added to the 1975 Act, the Nature Conservancy Council is saying in the loudest possible voice that this species cannot withstand *any* further collecting whilst its population level remains so low. Should anyone discover further populations of this moth, it is hoped they will advise NCC so that measures to safeguard the habitat can be instigated.

A STRIKING FORM OF *DRYMONIA DODONAEA* D. & S. (TRIMACULA ESP.). — On May 28th and June 4th 1979 I had examples of a distinctly melanic form of the Marbled Brown in my m.v. trap here at Horsell, Surrey. This form of this variable species first visited me in 1954, since when I have recorded ten other specimens here and single ones on Chobham Common and in my sister's garden at Virginia Water. I originally showed this form to the late Dr. E. A. Cockayne and have given specimens to the National Collection, but the insects have never been described. However, the recent publication of volume ix of the *Moths and Butterflies of Great Britain and Ireland* depicts this variety on plate 3, figure 33. Though not nearly so dark as f. *purpurescens* Cockayne, the chief feature of this form is the deep brown thorax and abdomen, together with the black half of the forewing adjoining the body and the pale grey or, in extreme instances almost white outer portion of the forewing, which might well earn it the name of *bicolor*. So far I have not heard of any other examples being recorded outside this immediate area in Surrey so that it would be of interest to learn if it has appeared elsewhere or even abroad. — C. G. M. DE WORMS, Three Oaks, Horsell, Woking, Surrey.

RHYACIA SIMULANS HUFNAGEL: DOTTED RUSTIC IN HUNTINGDONSHIRE. — A worn specimen of this local species came to my kitchen light here at St. Neots early on the night of 27th August 1979. I understand this is the first record of this species for the old county of Huntingdon. — R. E. SCOTT, 5 Beech Grove, St. Neots, Cambs.